PB-230 182

NATIONAL AEROMETRIC DATA INFORMATION SERVICE (NADIS)

Environmental Protection Agency
Washington, D.C.

April 1971

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NATIONAL AEROMETRIC DATA INFORMATION SERVICE (NADIS)

REFERENCE COLLECTION
Office of Research and Monitoring
Environmental Protection Agency

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Springfield VA 22151

APRIL 1971

AIR POLLUTION CONTROL OFFICE

55

INTRODUCTION

FEDERAL, STATE, AND LOCAL NEEDS FOR AEROMETRIC DATA WILL BE INCREASING AS A RESULT OF THE CLEAN AIR AMENDMENTS OF 1970. IN ORDER TO HELP STATE AND LOCAL AGENCIES MEET THESE DEMANDS, APCO MUST BEGIN TO ACCELERATE, EXPAND, AND COORDINATE THE DATA COLLECTION AND DISSEMINATION EFFORTS THROUGHOUT THE NATION. THE CONCEPT OF A NATIONAL AEROMETRIC DATA INFORMATION SERVICE (NADIS) IS PROPOSED TO MEET THIS NEED. THIS DOCUMENT HIGHLIGHTS BASIC CONCEPTS AND COMPONENTS OF NADIS. IT DOES NOT DETAIL THE TOTAL REQUIREMENTS FOR IMPLEMENTATION AND SHOULD BE CONSIDERED AS ONLY A BRIEFING DOCUMENT.

NATIONAL AEROMETRIC DATA

INFORMATION SERVICE

NADIS

CHART 1

DEFINITION OF TERMS

SAROAD - A COMPUTERIZED METHOD OF CODING, STORING, RETRIEVING, AND SUMMARIZING AEROMETRIC DATA

NADB - A CENTRALIZED COMPUTERIZED NATIONAL DATA BANK USED TO STORE FEDERAL, STATE, AND LOCAL DATA

DATAPHONE - A WORD USED BY AT&T TO DESIGNATE ANY DEVICE WHICH TRANSMITS DATA OVER TELEPHONE CHANNELS

SAQIS - A STATE INFORMATION SYSTEM FOR INFLOW-OUTFLOW OF AEROMETRIC DATA WHICH WILL MEET THE NEEDS OF THE FEDERAL AND STATE AGENCIES AS REQUIRED BY THE CLEAN AIR AMENDMENTS OF 1970

EPISODE - EVIDENCE THAT A POLLUTION SOURCE OR COMBINATION OF SOURCES (INCLUDING MOVING SOURCES) IS PRESENTING AN IMMINENT AND SUBSTANTIAL ENDANGERMENT TO THE HEALTH OF PERSONS

REAL-TIME TELEMETRY - A SYSTEM IN WHICH A SENSOR FEEDS RAW DATA INTO A COMPUTER WITH MICRO-SECOND TURNAROUND TIME

ON-LINE TELEMETRY - ABILITY TO SEND DATA BY WIRE OR WIRELESS, EXCLUDING VOICE TRANSMISSION AND REAL-TIME TELEMETRY

DEFINITION OF TERMS

SAROAD	STORAGE AND RETRIEVAL OF AEROMETRIC DATA
NADB	NATIONAL AEROMETRIC DATA BANK
DATAPHONE	A DEVICE USED TO TRANSMIT DATA OVER TELEPHONE CHANNELS
	NON-ADMINISTRATIVE COMMUNICATIONS CHANNELS (ELECTRONIC)
	ADMINISTRATIVE AND COMMUNICATIONS CHANNELS
SAQIS	STATE AIR QUALITY INFORMATION SYSTEM
EPISODE	LEVELS OF AIR POLLUTANTS AT WHICH SUBSTANTIAL ENDANGERMENT TO HEALTH MAY OCCUR
TELEMETRY	ANY METHOD OF TRANSMITTING DATA (REAL-TIME OR ON-LINE) BY WIRE OR WIRELESS, EXCLUDING VOICE TRANSMISSION

CHART 2

DEFINITION OF AEROMETRIC DATA

AEROMETRIC DATA, AS DEFINED AND USED IN THIS NADIS BRIEFING, ARE AIR QUALITY DATA, STATIONARY SOURCE EMISSIONS DATA, STATIONARY SOURCE INVENTORY DATA, METEOROLOGICAL DATA, AND MOBILE SOURCE EMISSIONS DATA. FOR THE SAKE OF SIMPLICITY OF PRESENTATION, ONLY AIR QUALITY DATA WILL BE DISCUSSED IN SUBSEQUENT PAGES. ANY DATA BASE, HOWEVER, COULD BE SUBSTITITED IN ANY OF THE CHARTS. AIR QUALITY WAS CHOSEN BECAUSE THE DATA BASE IS IN THE MOST ADVANCED STAGE OF DEVELOPMENT AND WILL SERVE AS A BASIS AND FORMAT FOR DEVELOPING OTHER BASES.

DEFINITION OF AEROMETRIC DATA

AEROMETRIC DATA ARE QUANTITATIVE INFORMATION COMPILED FROM MEASUREMENTS OF:

- AIR QUALITY
- STATIONARY SOURCE EMISSIONS
- STATIONARY SOURCE INVENTORY
- METEOROLOGICAL PARAMETERS
- MOBILE SOURCE EMISSIONS

FOR THE SAKE OF SIMPLICITY, ONLY AIR QUALITY WILL BE DISCUSSED IN SUBSEQUENT PAGES.

CHART 3 NADIS DEFINITION AND APPLICATION

NADIS IS A SYSTEMS APPROACH TO COLLECTING, STORING, AND RETRIEVING DATA TO PROVIDE A SYSTEMATIC AND TIMELY FLOW OF AEROMETRIC DATA TO AND FROM THE NATIONAL AEROMETRIC DATA BANK. HOWEVER, THE BASIC CONCEPT AND OPERATION OF NADIS CAN BE EXPANDED BEYOND AEROMETRIC DATA TO INCLUDE OTHER ENVIRONMENTAL DATA. THE ADMINISTRATOR OF EPA HAS BEEN GIVEN THE RESPONSIBILITY BY CONGRESS OF CARRYING OUT THE PROVISIONS OF THE CLEAN AIR AMENDMENTS OF 1970. TO MEET THIS RESPONSIBILITY, APCO MUST BE RESPONSIVE TO ALL AIR POLLUTION INFORMATION NEEDS OF FEDERAL, STATE, AND LOCAL GOVERNMENT, AS WELL AS TO THE PUBLIC.

NADIS DEFINITION AND APPLICATION

NADIS IS:

- A SYSTEMATIC AND CURRENT INFLOW OF AEROMETRIC DATA
- AN ORGANIZED AND READILY ACCESSIBLE NATIONAL AEROMETRIC DATA BANK
- A SYSTEMATIC AND TIMELY OUTFLOW OF SUMMARIZED DATA

NADIS WILL BE:

- RESPONSIVE TO THE INFORMATION NEEDS OF
  - CONGRESS
  - COUNCIL ON ENVIRONMENTAL QUALITY
  - ENVIRONMENTAL PROTECTION AGENCY
  - FEDERAL AGENCIES (NATIONAL AND REGIONAL)
  - STATE AGENCIES
  - LOCAL AGENCIES
- EXPANDABLE TO INCLUDE OTHER ENVIRONMENTAL DATA SERVICE NEEDS
- IMPLEMENTED FOR AIR QUALITY DATA BY JUNE 1971 AND FULLY OPERATIONAL FOR ALL AEROMETRIC DATA BEFORE 1976

CHART 4 BASIC CONSIDERATIONS FOR AIR QUALITY INFORMATION SYSTEMS

BEFORE DEVELOPING ANY SYSTEM OF HANDLING AIR QUALITY DATA, GOALS MUST BE SET FORTH. THE BASIC CONCEPT FOR NADIS IS THAT ALL AIR QUALITY DATA ENTERED IN THE NATIONAL AEROMETRIC DATA BANK WILL BE COMPARABLE, ACCURATE, AND CURRENT. COMPARABILITY IS DETERMINED BY UNIFORM SURVEILLANCE TECHNIQUES THROUGHOUT LOCAL, STATE, AND FEDERAL NETWORKS. TO MEET THIS NEED, APCO WILL DISTRIBUTE THE REPORT, "GUIDELINES: AIR QUALITY SURVEILLANCE NETWORKS." ACCURACY OF MEASUREMENTS WILL BE DISCUSSED IN AN APCO GUIDELINES DOCUMENT, "GUIDELINES FOR THE ACQUISITION OF VALIDATED AIR QUALITY DATA." ANOTHER GUIDELINES DOCUMENT, "THE SAROAD USER'S MANUAL" WILL DISCUSS HOW TO RECORD DATA IN THE SAROAD FORMAT. THIS BRIEFING DOCUMENT DISCUSSING NADIS WILL SHOW HOW CURRENCY OF THE DATA CAN BE ASSURED BY NADIS.

BASIC CONSIDERATIONS

TO DEVELOP AN AIR QUALITY DATA INFORMATION SYSTEM, THREE GOALS MUST BE CONSIDERED:

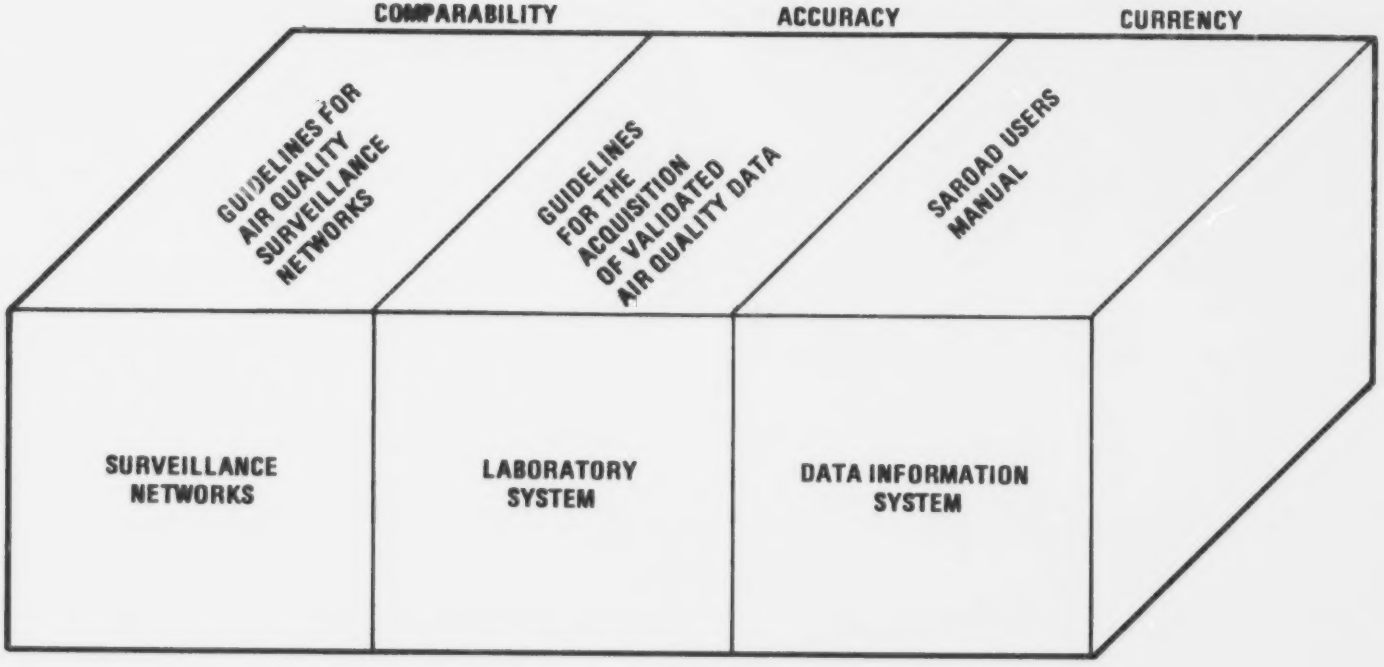

CHART 5

OVERVIEW

THE HUB OF NADIS FOR HANDLING AIR QUALITY DATA WILL BE THE APCO COMPUTER CENTER IN RESEARCH TRIANGLE PARK, NORTH CAROLINA. BASIC STANDARDIZED SOFTWARE WILL BE USED IN THE NATIONAL AEROMETRIC DATA BANK OPERATIONS. ALL AIR QUALITY DATA WILL BE STORED AND PROCESSED IN THE SAROAD FORMAT. EACH STATE WILL BE CONNECTED TO THE APCO COMPUTER BY DATAPHONE SO THAT EXCHANGES OF DATA CAN BE HANDLED EXPEDITIOUSLY WHEN NECESSARY. EACH OF THE TEN FEDERAL REGIONAL OFFICES WILL ALSO HAVE DATAPHONE CAPABILITY TO QUERY BOTH APCO AND SAQIS. DEPENDING ON THE TYPE OF INFORMATION SYSTEM REQUIRED, LOCAL AGENCIES MAY OR MAY NOT HAVE DATAPHONE CAPABILITIES WITH SAQIS OR APCO.

DURING EPISODES, APCO MUST HAVE THE OPTION OF QUERYING THE SAQIS OR THE LOCAL AGENCY IF APPLICABLE. THIS IS MERELY A MORE ADVANCED PROCEDURE OF THE CURRENT PRACTICES OF APCO.

OVERVIEW

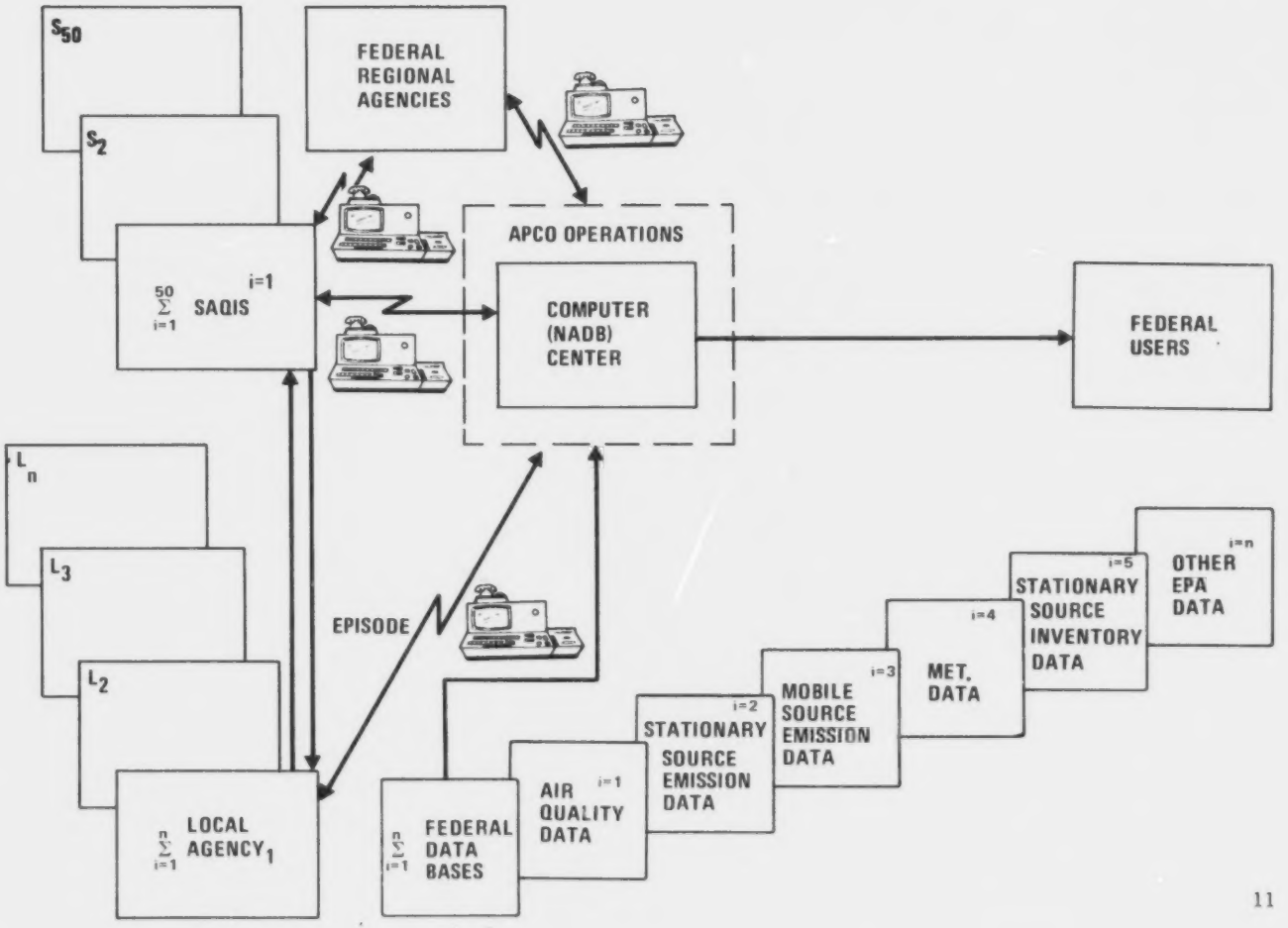
S_{50}
S_2
$\sum_{i=1}^{50}$ SAQIS $i=1$
FEDERAL REGIONAL AGENCIES
APCO OPERATIONS
COMPUTER (NADB) CENTER
FEDERAL USERS
L_n
L_3
L_2
EPISODE
$\sum_{i=1}^{n}$ LOCAL AGENCY$_1$
$\sum_{i=1}^{n}$ FEDERAL DATA BASES
AIR QUALITY DATA $i=1$
STATIONARY SOURCE EMISSION DATA $i=2$
MOBILE SOURCE EMISSION DATA $i=3$
MET. DATA $i=4$
STATIONARY SOURCE INVENTORY DATA $i=5$
OTHER EPA DATA $i=n$

CHART 6

FEDERAL AIR QUALITY DATA

FEDERAL AIR QUALITY DATA WILL BE INCORPORATED INTO THE NATIONAL AEROMETRIC DATA BANK. DATA FROM THE NATIONAL AIR SURVEILLANCE NETWORKS WILL BE TRANSMITTED TO THE DATA BANK ON A QUARTERLY BASIS. IN ADDITION, DATA FROM SPECIFIC STUDIES SUCH AS COMMUNITY HEALTH AND ENVIRONMENTAL SURVEILLANCE STUDIES, SOURCE SURVEILLANCE STUDIES, AND SPECIAL STUDIES WILL BE ENTERED WHEN THEY BECOME AVAILABLE.

FEDERAL AIR QUALITY DATA

NATIONAL AIR SURVEILLANCE NETWORKS

COMMUNITY HEALTH AND ENVIRONMENTAL SURVEILLANCE STUDIES

NATIONAL SOURCE SURVEILLANCE STUDIES

SPECIAL STUDIES

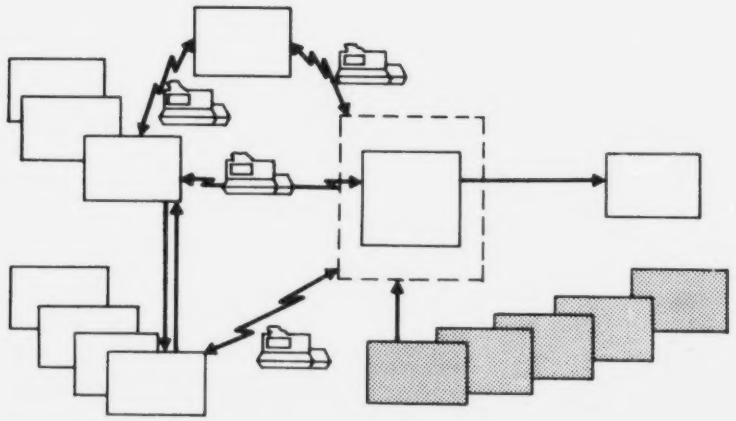

CHART 7 NATIONAL AEROMETRIC DATA BANK (AIR QUALITY)

REDUCED VALIDATED AIR QUALITY DATA IN THE SAROAD FORMAT WILL BE SENT TO THE APCO COMPUTER CENTER BY DATAPHONE, ON MAGNETIC TAPE, ON PUNCHED CARDS, AND ON PAPER, WHICHEVER IS APPROPRIATE FOR THE AGENCY CONCERNED. THESE INPUTS WILL BE PRE-PROCESSED AND STORED IN THE NATIONAL AEROMETRIC DATA BANK. THE CENTRAL COMPUTER FACILITY HAS AN IBM 360/50 TO STORE DATA AND PRODUCE THE NECESSARY OUTPUTS.

NATIONAL AEROMETRIC DATA BANK (AIR QUALITY)

INPUTS	PRE-PROCESSING	STORAGE	OUTPUT
DATAPHONE MAG TAPE PUNCH CARDS PAPER FORMS	EDIT VALIDATE CODE CONVERT	NADB	SUMMARY OF AIR QUALITY DATA STANDARDIZED SOFTWARE FOR ANALYSIS OF DATA ENUMERATION OF SPECIFIC AREAS FOR STUDY CORRELATION OF AIR QUALITY TO OTHER DATA BASES

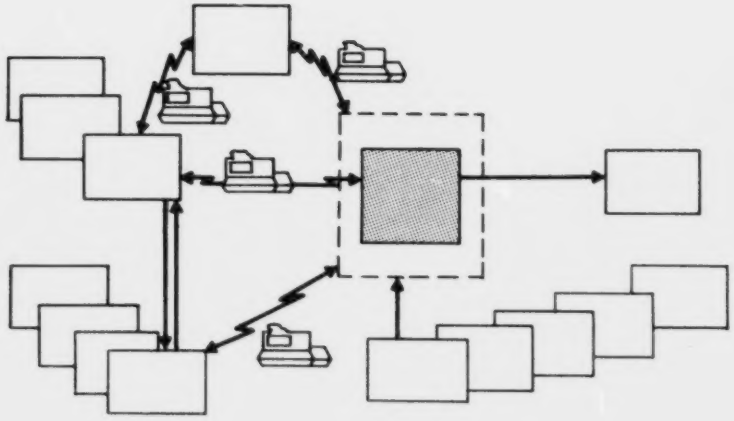

CHART 8

NADB CHARACTERISTICS

DATA IN THE NADB WILL BE READILY ACCESSIBLE AND STRUCTURED FOR VARIOUS TYPES OF QUERY. THE SIZE OF THE DATA BANK FOR AIR QUALITY DATA IS EXPECTED TO REACH FIVE BILLION CHARACTERS COVERING ALL STATES, TO INCLUDE APPROXIMATELY 10,000 SITES. THE DATA MANAGEMENT SYSTEM, MARK IV, IS CURRENTLY EMPLOYED.

NADB CHARACTERISTICS

ON-LINE RAPID ACCESS (DATAPHONE OR EQUIVALENT)

STRUCTURED FOR QUERY - ANSWERING CAPABILITY

- BY GEOGRAPHICAL AREA
- BY POLLUTANT
- BY TIME PERIOD

CAPABILITY FOR 50 STATES - TOTAL OF MORE THAN 10,000 SITES

POLLUTANTS: TSP, SO_2, O_x, NO_x, CO, HC, AND OTHER POLLUTANTS OF LOCAL INTEREST

CURRENT VOLUME: 200 MILLION CHARACTERS

PROJECTED VOLUME: 5 BILLION CHARACTERS

CHART 9

STATE AIR QUALITY INFORMATION SYSTEM (SAQIS)

THE CLEAN AIR AMENDMENTS OF 1970 EXPLICITLY STATE THAT AIR POLLUTION CONTROL IS THE RESPONSIBILITY OF THE STATE. THEREFORE, THE SAQIS WILL SERVE AS THE KEY BUILDING BLOCK FOR NADIS TO GATHER COMPARABLE, ACCURATE, AND CURRENT AIR QUALITY DATA. EACH STATE AGENCY WILL SERVE AS THE DATA ACQUISITION CENTER WITHIN THAT STATE, AND THUS BE THE PRIMARY FOCAL POINT FOR APCO. THE RESPECTIVE STATE DATA ACQUISITION CENTERS WILL BE RESPONSIBLE FOR PROVIDING NECESSARY DATA ANALYSIS SUPPORT TO THE LOCAL AIR POLLUTION CONTROL AGENCIES. THIS WILL BE ACCOMPLISHED BY UTILIZING STANDARDIZED SOFTWARE FURNISHED BY APCO OR BY EMPLOYING THE RAPID ACCESS FACILITIES OF NADIS. THROUGH STATE, LOCAL, AND FEDERAL COOPERATION, TECHNICAL ASSISTANCE CAN BE RENDERED WITHIN A REASONABLE TIME.

STATE AIR QUALITY INFORMATION SYSTEM (SAQIS)

SERVES AS FOCAL COMMUNICATION POINT FOR APCO

OBTAINS AND COMPILES AIR QUALITY DATA IN THE SAROAD FORMAT FOR TRANSMISSION TO APCO

SUPPORTS STATE AIR SURVEILLANCE PROGRAMS

PROVIDES SUPPORT TO LOCAL AGENCIES DURING EPISODES

PROVIDES THE APPROPRIATE DATA TO APCO SO THAT ADEQUATE SUPPORT CAN BE PROVIDED TO THE LOCAL AND STATE AIR POLLUTION COMPONENTS

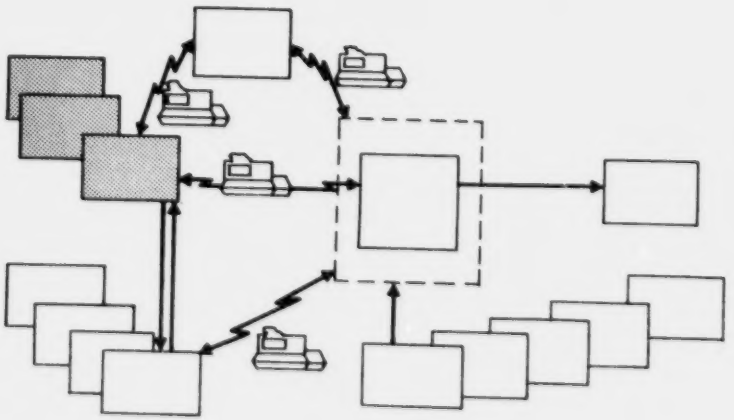

CHART 10 FUNCTIONS OF LOCAL AIR QUALITY SURVEILLANCE PROGRAMS

EVERY LOCAL SURVEILLANCE PROGRAM WILL HAVE THREE MAIN FUNCTIONS TO PERFORM: COLLECT DATA, REDUCE IT TO SAROAD FORMAT, AND TRANSMIT IT TO SAQIS. THE EXACT NATURE OF THESE FUNCTIONS DEPENDS ON THE DEGREE OF SOPHISTICATION OF THE PARTICULAR SURVEILLANCE PROGRAM.

FUNCTIONS OF LOCAL AIR QUALITY SURVEILLANCE PROGRAMS

COLLECT AIR QUALITY DATA

REDUCE AND VALIDATE DATA

SEND DATA ROUTINELY TO SAQIS IN SAROAD FORMAT

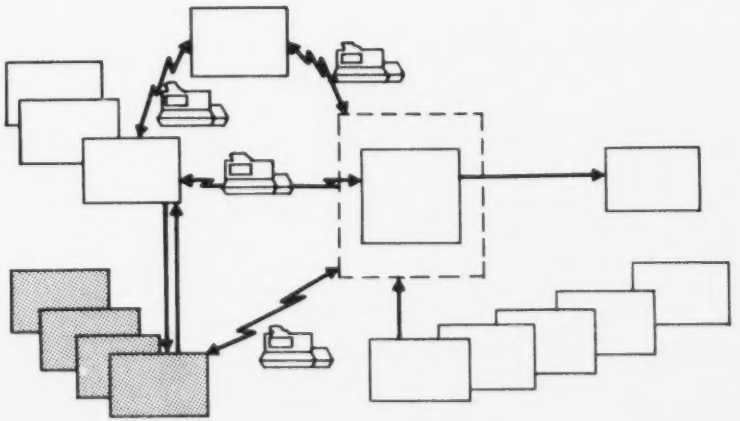

CHART 11 CLASSIFICATION OF NADIS INFORMATION SYSTEMS

THE CHARACTERISTICS FOR EACH OF THE FIVE CLASSES OF INFORMATION SYSTEMS ARE SHOWN HERE. DATA TRANSMISSION FROM SURVEILLANCE NETWORKS RANGES FROM HIGHLY SOPHISTICATED TELEMETRY SYSTEMS TO COMPLETELY MANUAL SYSTEMS UTILIZING HIGH-VOLUME SAMPLERS AND SULFATION PLATES. CLASSES II AND III HAVE SEMI-AUTOMATIC DATA TRANSMISSION CAPABILITIES DURING EPISODES.

THE CLASS OF INFORMATION SYSTEM REQUIRED FOR A PARTICULAR AREA IS DETERMINED BY FACTORS SUCH AS POTENTIAL FOR EPISODES, SEVERITY OF EPISODES, SIZE OF AGENCY, AVAILABLE PERSONNEL TO SERVE SYSTEM, AND GEOGRAPHICAL AREA COVERED.

CLASSIFICATION OF NADIS INFORMATION SYSTEMS

CLASS	INSTRUMENT CHARACTERISTICS	DATA TRANSMISSION (HIGHEST ORDER)		
		TO APCO FROM SAQIS	TO SAQIS FROM LOCAL	TO LOCAL FROM SAMPLING SITE
I	AUTOMATED	DATAPHONE	DATAPHONE	ON-LINE TELEMETRY
II	AUTOMATED	DATAPHONE	DATAPHONE	MANUAL RETRIEVAL: (DATAPHONE USED DURING EPISODE)
III	AUTOMATED AND/OR MECHANICAL	DATAPHONE	DATAPHONE	MANUAL RETRIEVAL: (WARNING SYSTEM USED DURING EPISODE)
IV	AUTOMATED AND/OR MECHANICAL	DATAPHONE	MAIL	MANUAL RETRIEVAL
V	MECHANICAL	DATAPHONE	MAIL	MANUAL RETRIEVAL

CHART 12 PRESENT LOCAL/STATE INFORMATION SYSTEM CONFIGURATION

BASED ON NADIS INFORMATION SYSTEM DEFINITIONS, ONLY 12 AIR POLLUTION AGENCIES CURRENTLY HAVE A CLASS I INFORMATION SYSTEM, WHILE 126 HAVE CLASS V SYSTEMS. IT SHOULD BE NOTED THAT NO AGENCIES APPEAR UNDER THE CLASS III SYSTEM, ALTHOUGH THEY MAY EXIST. PRESENTLY AVAILABLE INFORMATION MAKES THIS PARTICULAR SYSTEM DIFFICULT TO IDENTIFY.

PRESENT LOCAL/STATE INFORMATION SYSTEM CONFIGURATION

TOTAL AIR POLLUTION AGENCIES	245
CLASS I	12
CLASS II	9
CLASS III	0
CLASS IV	74
CLASS V	126
UNKNOWN	2
DO NOT OPERATE	22

CHART 13

NADIS WILL FURNISH TO STATE AND LOCAL AGENCIES

THROUGH NADIS, THE APCO COMPUTER CENTER WILL FURNISH STATE AND LOCAL AGENCIES WITH VALIDATED DATA IN THE FORM OF TABLES AND VARIOUS GRAPHIC PRESENTATIONS. STANDARDIZED COMPUTER PROGRAMS WILL ALSO BE AVAILABLE. THE DATA FORTHCOMING FROM APCO WILL BE USED FOR ENUMERATION OF AREAS THAT REQUIRE SPECIAL STUDY AND FOR ESTIMATING ECONOMIC AND HEALTH EFFECTS.

NADIS WILL FURNISH TO STATE AND LOCAL AGENCIES

REDUCED VALIDATED SUMMARIES OF AIR QUALITY ON A QUARTERLY BASIS

ANALYZED AIR QUALITY DATA IN THE FORM OF TABLES, GRAPHIC PRESENTATIONS, HISTOGRAMS, ISOPLETHS, ...

STANDARDIZED COMPUTER PROGRAMS FOR EXPANDED SAQIS/LOCAL USE

ENUMERATION OF AREAS OF SEVERITY FOR SPECIAL STUDY

AIR QUALITY DATA FOR USE IN ESTIMATING ECONOMIC AND HEALTH EFFECTS

CHART 14

NADIS BENEFITS TO STATE AND LOCAL AGENCIES

APCO WILL RETURN VALIDATED AIR QUALITY DATA SUMMARIES TO ALL STATE AND LOCAL AGENCIES ON A SCHEDULED OR AS NEEDED BASIS. IN ADDITION, AGENCIES DESIRING TO EXPAND OR IMPROVE THEIR PROGRAMS WILL BE ABLE TO RECEIVE STANDARD SOFTWARE PACKAGES, ON-THE-JOB TRAINING FOR THEIR STAFF, AND CONSULTATION AND TECHNICAL ASSISTANCE FROM APCO.

NADIS BENEFITS TO STATE AND LOCAL AGENCIES

STATE AND LOCAL AGENCIES RECEIVE:

- REDUCED VALIDATED AIR POLLUTION DATA SUMMARIES FOR IMPLEMENTATION PLANS, LONG TERM CONTROL, AND ENFORCEMENT
- STANDARD SOFTWARE PACKAGES
- ON-THE-JOB TRAINING FOR PERSONNEL
- CONSULTATION AND TECHNICAL ASSISTANCE FROM APCO

CHART 15

OVERALL AIR QUALITY DATA FLOW

THUS FAR, OUTPUT FROM NADIS HAS BEEN DISCUSSED IN THE GENERAL TERMS OF BENEFITS AND VOLUME OF DATA AVAILABLE TO LOCAL, STATE, AND FEDERAL USERS. THE MOST IMPORTANT PRODUCT OF NADIS IS THE ISSUANCE OF SUMMARIES OF REDUCED VALIDATED DATA TO APPROPRIATE USERS.

OVERALL AIR QUALITY DATA FLOW

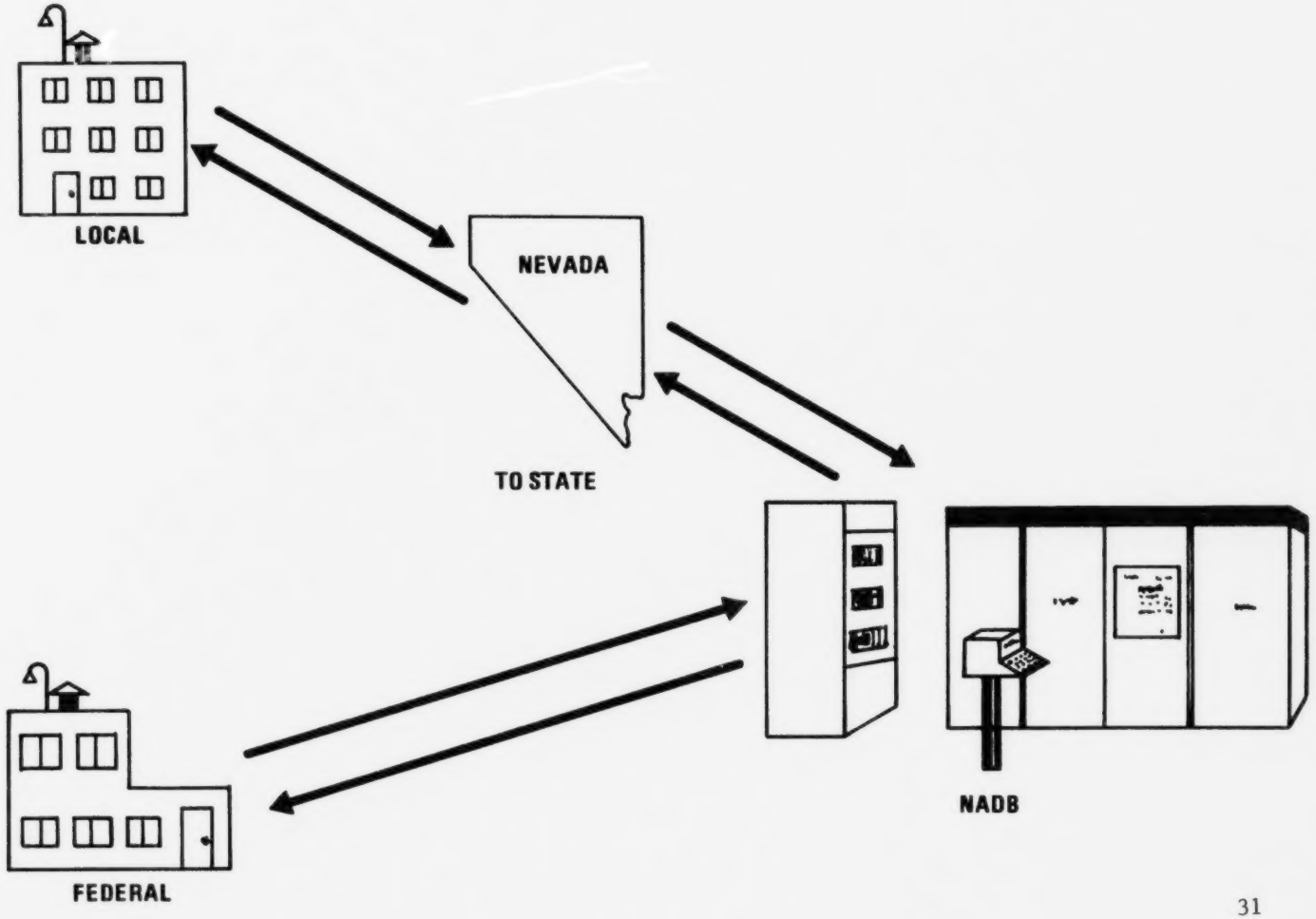

CHART 16

STANDARD REPORT I

THE SAMPLE REPORT DEPICTED HERE WILL GIVE THE SITE IDENTIFICATION INFORMATION AND THE NUMBER OF OBSERVATIONS AND ARITHMETIC AVERAGE FOR EACH QUARTER OF THE YEAR FOR WHICH DATA EXIST. THE ARITHMETIC AVERAGE, STANDARD DEVIATION, MAXIMUM, AND MINIMUM FOR THE ENTIRE YEAR ARE SHOWN. IN ADDITION, A STATISTIC IS PRODUCED FOR "TOTAL PERCENT OF YEAR COVERED." THIS NUMBER REPRESENTS THE PERCENTAGE OF TIME DURING THE YEAR COVERED BY THE DATA COLLECTED. THIS REPORT WILL BE GENERATED ON A QUARTERLY BASIS FOR EACH STATE.

STANDARD REPORT NO. 1
AIR QUALITY DATA REPORT
STATE OF NEW JERSEY

LOCATION: UNKNOWN SITE: 01

SAROAC NUMBER: 3100001
SAMPLING AGCY: UNKNOWN
CITY NAME: UNKNOWN
SMSA NUMBER:
AQCR NUMBER: 000
LATITUDE: D. M. S.
UTM NORTHING:
ECONOMIC ACTIVITY TYPE: UNIDENTIFIED
ELEVATION ABOVE GROUND: FEET
REPORTING AGENCY TYPE: UNIDENTIFIED
SMSA POPULATION(1000'S):
COUNTY POPULATION(1000'S):
SUPPORTING AGENCY: NEW JERSEY STATE DEPT OF HEALTH DIV OF CLEAN AIR & WATER

STATE NAME: NEW JERSEY
COUNTY NAME: UNKNOWN
SMSA NAME: UNIDENTIFIED
AQCR NAME: UNIDENTIFIED
LONGITUDE: D. M. S.
UTM EASTING:
TIME ZONE: EASTERN
ELEVATION ABOVE SEA LEVEL: FEET
TOPOGRAPHIC CODE: PLAIN
CITY POPULATION(1000'S):
AQCR POPULATION(1000'S):

YEAR	POLLUTANT METHOD INSTRUMENT INTERVAL & UNITS	TOTAL PERCENT OF YEAR COVERED	ARITHMETIC AVERAGE	ARITHMETIC STD DEV	EXTREMES MIN OBS	EXTREMES MAX OBS	QUARTER FIRST NUM OBS	QUARTER FIRST ARITH AVG	QUARTER SECOND NUM OBS	QUARTER SECOND ARITH AVG	QUARTER THIRD NUM OBS	QUARTER THIRD ARITH AVG	QUARTER FOURTH NUM OBS	QUARTER FOURTH ARITH AVG
68	OXIDES OF NITROGEN SALTZMAN AUTOMATED ANALYZER 1-HR PPM	38	0.134	0.096	0.011	0.820	0	0.000	0	0.000	1281	0.107	2124	0.151
	NITROGEN DIOXIDE SALTZMAN AUTOMATED ANALYZER 1-HR PPM	39	0.060	0.026	0.009	0.252	0	0.000	0	0.000	1283	0.068	2181	0.055
	OXIDANT ALKALINE KI AUTOMATED ANALYZER 1-HR PPM	39	0.027	0.018	0.000	0.158	0	0.000	0	0.000	1277	0.041	2140	0.019
69	OXIDES OF NITROGEN SALTZMAN AUTOMATED ANALYZER 1-HR PPM	7	0.154	0.109	0.001	0.499	693	0.154	0	0.000	0	0.000	0	0.000
	NITROGEN DIOXIDE SALTZMAN AUTOMATED ANALYZER 1-HR PPM	8	0.056	0.014	0.019	0.133	714	0.056	0	0.000	0	0.000	0	0.000
	OXIDANT ALKALINE KI AUTOMATED ANALYZER 1-HR PPM	8	0.016	0.013	0.000	0.079	707	0.016	0	0.000	0	0.000	0	0.000

CHART 17

STANDARD REPORT II

THIS REPORT WILL BE GENERATED FOR EACH SITE AND SENT TO THE STATES ON A QUARTERLY BASIS AS A COMPANION TO THE STANDARD REPORT I. IT PRESENTS A GREATER STATISTICAL TREATMENT OF THE DATA, INCLUDING THE GEOMETRIC MEAN AND THE STANDARD GEOMETRIC DEVIATION.

STANDARD REPORT NO. 11
AIR QUALITY DATA REPORT
STATE OF NEW JERSEY

LOCATION: UNKNOWN SITE: 01

SAROAD NUMBER: 31000001
SAMPLING AGENT: UNKNOWN
CITY NAME: UNKNOWN
SMSA NUMBER:
AQCR NUMBER: 000
LATITUDE: D. M. S.
UTM NORTHING:
ECONOMIC ACTIVITY TYPE: UNIDENTIFIED
ELEVATION ABOVE GROUND: FEET
REPORTING AGENCY TYPE: UNIDENTIFIED
SMSA POPULATION(1000'S):
COUNTY POPULATION(1000'S):
SUPPORTING AGENCY: NEW JERSEY STATE DEPT OF HEALTH DIV OF CLEAN AIR & WATER

STATE NAME: NEW JERSEY
COUNTY NAME: UNKNOWN
SMSA NAME: UNIDENTIFIED
AQCR NAME: UNIDENTIFIED
LONGITUDE: D. M. S.
UTM EASTING:
TIME ZONE: EASTERN
ELEVATION ABOVE SEA LEVEL: FEET
TOPOGRAPHIC CODE: PLAIN
CITY POPULATION(1000'S):
AQCR POPULATION(1000'S):

YEAR	POLLUTANT / METHOD / INSTRUMENT / INTERVAL & UNITS	NUM OBS	MIN OBS	PERCENTILES 10	30	50	70	90	95	99	MAX OBS	ARITH AVG	GEOMETRIC MEAN	GEOMETRIC STD DEV
68	OXIDES OF NITROGEN SALTZMAN AUTOMATED ANALYZER 1-HR PPM	3405	0.011	0.042	0.077	0.102	0.150	0.280	0.347	0.440	0.820	0.134	0.107	1.993
	NITROGEN DIOXIDE SALTZMAN AUTOMATED ANALYZER 1-HR PPM	3464	0.009	0.032	0.045	0.055	0.069	0.091	0.104	0.147	0.252	0.060	0.055	1.538
	OXIDANT ALKALINE KI AUTOMATED ANALYZER 1-HR PPM	3417	0.000	0.008	0.017	0.023	0.032	0.050	0.062	0.085	0.158	0.027	0.019	3.737
69	OXIDES OF NITROGEN SALTZMAN AUTOMATED ANALYZER 1-HR PPM	693	0.001	0.054	0.084	0.105	0.176	0.341	0.385	0.454	0.499	0.154	0.122	1.991
	NITROGEN DIOXIDE SALTZMAN AUTOMATED ANALYZER 1-HR PPM	714	0.019	0.034	0.045	0.053	0.063	0.078	0.089	0.114	0.133	0.056	0.053	1.380
	OXIDANT ALKALINE KI AUTOMATED ANALYZER 1-HR PPM	707	0.000	0.004	0.010	0.014	0.019	0.028	0.032	0.043	0.095	0.016	0.011	3.321

CHART 18

STANDARD REPORT III

THIS TYPE OF REPORT PRESENTS AN INVENTORY OF THE DATA AVAILABLE FOR EACH STATE. ITS PURPOSE IS TO MAINTAIN A CURRENT INVENTORY OF LOCAL DATA GATHERING METHODS AND INSTRUMENTS USED. THE "% YEAR COVERED" IS THE NUMBER OF RECORDED OBSERVATIONS DIVIDED BY THE TOTAL NUMBER OF OBSERVATIONS WHICH COULD BE TAKEN IN ONE YEAR BASED ON THE SAME SAMPLING INTERVAL. THIS REPORT WILL BE GENERATED QUARTERLY.

STANDARD REPORT III

BY STATE

NEW JERSEY

LOCATION NAME	SITE NUM	NAME OF POLLUTANT	YEAR	METH CODE	INST CODE	UNIT CODE	INTV CODE	NUM OBS	% YEAR COVERED	NUMBER HR OBS	NUMBER OF DAYS	NUMBER OF MONTHS	SAROAD ID NUM
UNKNOWN	01	OXIDES OF NITROGEN	68	51	81	01	01	3,405	.388	3,405	146	5	31000001
			69	51	81	01	01	693	.079	693	31	1	31000001
		NITROGEN DIOXIDE	68	51	81	01	01	3,464	.395	3,464	146	5	31000001
			69	51	81	01	01	714	.081	714	31	1	31000001
		OXIDANT	68	58	81	01	01	3,417	.390	3,417	145	5	31000001
			69	58	81	01	01	707	.080	707	31	1	31000001
BAYONNE NJ	02	SULFUR DIOXIDE	66	31	81	01	08	7	.583			7	31018002
			67	31	81	01	08	12	1.000			12	31018002
			68	31	81	01	08	11	.916			11	31018002
		OXIDES OF NITROGEN	66	51	81	01	01	3,889	.443	3,889	175	6	31018002
			67	51	81	01	01	1,247	.142	1,247	54	2	31018002
			68	51	81	01	01	8,704	.993	8,704	366	12	31018002
			69	51	81	01	01	734	.083	734	31	1	31018002
		NITROGEN DIOXIDE	66	51	81	01	01	4,001	.456	4,001	178	6	31018002
			67	51	81	01	01	733	.083	733	31	1	31018002
			68	51	81	01	01	8,709	.994	8,709	366	12	31018002
			69	51	81	01	01	740	.084	740	31	1	31018002
		OXIDANT	66	58	81	01	01	3,915	.446	3,915	180	6	31018002
			67	58	81	01	01	736	.084	736	31	1	31018002
			68	58	81	01	01	8,621	.984	8,621	365	12	31018002
			69	58	81	01	01	727	.082	727	31	1	31018002
	03	CARBON MONOXIDE	66	00	00	01	01	4,786	.546	4,786	205	7	31018003
			67	00	00	01	01	8,546	.975	8,546	360	12	31018003
			68	00	00	01	01	8,523	.972	8,523	362	12	31018003
			69	00	00	01	01	371	.042	371	18	1	31018003
		SULFUR DIOXIDE	66	31	10	01	01	4,747	.541	4,747	214	7	31018003
			67	31	10	01	01	8,423	.961	8,423	359	12	31018003
			68	31	10	01	01	8,623	.984	8,623	364	12	31018003
			69	31	10	01	01	732	.083	732	31	1	31018003
		NITRIC OXIDE	66	00	00	01	01	4,520	.515	4,520	206	7	31018003
			67	00	00	01	01	8,429	.962	8,429	363	12	31018003
			68	00	00	01	01	8,678	.990	8,678	366	12	31018003
			69	00	00	01	01	715	.081	715	31	1	31018003
		NITROGEN DIOXIDE	66	00	00	01	01	4,639	.529	4,639	209	7	31018003
			67	00	00	01	01	8,450	.964	8,450	362	12	31018003
			68	00	00	01	01	8,697	.992	8,697	366	12	31018003
			69	00	00	01	01	727	.082	727	31	1	31018003
		TOTAL HYDROCARBON	66	00	00	01	01	3,298	.376	3,298	142	5	31018003
			67	00	00	01	01	8,521	.972	8,521	360	12	31018003
			68	00	00	01	01	8,401	.959	8,401	354	12	31018003
			69	00	00	01	01	682	.077	682	30	1	31018003
		OXIDANT	66	00	00	01	01	4,456	.508	4,456	210	7	31018003
			67	00	00	01	01	8,221	.938	8,221	360	12	31018003
			68	00	00	01	01	8,608	.982	8,608	365	12	31018003
			69	00	00	01	01	715	.081	715	31	1	31018003
CAMDEN NJ	02	SULFUR DIOXIDE	68	31	81	01	08	10	.833			10	31072002
		OXIDES OF NITROGEN	68	51	81	01	01	8,384	.957	8,384	355	12	31072002
			69	51	81	01	01	707	.080	707	30	1	31072002
		NITROGEN DIOXIDE	68	51	81	01	01	8,402	.959	8,402	354	12	31072002
			69	51	81	01	01	736	.084	736	31	1	31072002

CHART 19

STANDARD REPORT IV

THIS REPORT CONTAINS THE SAME BASIC INFORMATION AS STANDARD REPORT III, HOWEVER, THE ORGANIZATION IS SLIGHTLY MODIFIED. DATA ARE GROUPED BY POLLUTANT AND PRINTED ONE STATE AT A TIME, WHEREAS IN REPORT III ALL DATA ARE GROUPED BY STATE.

STANDARD REPORT IV

BY POLLUTANT

NEW JERSEY
POLLUTANT OXIDES OF NITROGEN

LOCATION NAME	SITE NUM	YEAR	METH CODE	INST CODE	UNIT CODE	INTV CODE	NUM OBS	% YEAR COVERED	NUMBER HR OBS	NUMBER OF DAYS	NUMBER OF MONTHS	SAROAD ID NUM
UNKNOWN	01	68	51	81	01	01	3,405	.388	3,405	146	5	31000001
		69	51	81	01	01	693	.079	693	31	1	31000001
BAYONNE NJ	02	66	51	81	01	01	3,889	.443	3,889	175	6	31018002
		67	51	81	01	01	1,247	.142	1,247	54	2	31018002
		68	51	81	01	01	8,704	.993	8,704	366	12	31018002
		69	51	81	01	01	734	.083	734	31	1	31018002
CAMDEN NJ	02	68	51	81	01	01	8,384	.957	8,384	355	12	31072002
		69	51	81	01	01	707	.080	707	30	1	31072002
ANCORA NJ	01	66	51	81	01	01	1,087	.124	1,087	53	2	31074001
		67	51	81	01	01	178	.020	178	8	1	31074001
EDISON NJ	01	68	00	00	01	01	3,117	.355	3,117	154	6	31126001
		69	00	00	01	01	4,781	.545	4,781	288	11	31126001
		70	00	00	01	01	742	.084	742	48	2	31126001
LINDEN NJ	01	69	00	00	01	01	5,209	.594	5,209	293	10	31258001
		70	00	00	01	01	1,175	.134	1,175	58	2	31258001
NEWARK NJ	03	66	51	81	01	01	5,251	.599	5,251	236	8	31348003
		67	51	81	01	01	8,268	.943	8,268	364	12	31348003
		68	51	81	01	01	1,332	.152	1,332	60	2	31348003

CHART 20

STANDARD REPORT V

STANDARD REPORT V PRESENTS THE SAME DATA AS STANDARD REPORT I, BUT DOES NOT CONTAIN THE SITE INFORMATION. THIS MAKES IT POSSIBLE TO PRESENT DATA FROM MORE THAN ONE SITE ON THE SAME PAGE.

NEW JERSEY
OXIDES OF NITROGEN
PARTS PER MILLION
1-HOUR DATA

METHOD
00 7

STANDARD REPORT NO. V
AIR QUALITY DATA REPORT

INSTRUMENT
UNKNOWN--NAPCA

LOCATION	SITE NUM	YEAR	TOTAL PERCENT OF YEAR COVERED	ARITHMETIC AVERAGE	ARITHMETIC STD DEV	EXTREMES MIN OBS	EXTREMES MAX OBS	QUARTER FIRST NUM OBS	QUARTER FIRST ARITH AVG	QUARTER SECOND NUM OBS	QUARTER SECOND ARITH AVG	QUARTER THIRD NUM OBS	QUARTER THIRD ARITH AVG	QUARTER FOURTH NUM OBS	QUARTER FOURTH ARITH AVG
EDISON NJ	01	68	35	0.032	0.034	0.010	0.380	0	0.000	638	0.023	1819	0.033	660	0.037
		69	54	0.086	0.098	0.005	0.999	283	0.061	1402	0.068	1653	0.095	1443	0.099
		70	8	0.122	0.157	0.010	0.999	742	0.122	0	0.000	0	0.000	0	0.000
LINDEN NJ	01	69	59	0.106	0.113	0.005	0.999	446	0.050	1298	0.074	1700	0.139	1765	0.112
		70	13	0.085	0.086	0.005	0.580	1175	0.085	0	0.000	0	0.000	0	0.000

CHART 21

STANDARD REPORT VI

THIS REPORT SERVES AS THE COMPANION TO STANDARD REPORT V AND PRESENTS THE SAME DATA APPEARING IN STANDARD REPORT II, BUT WITHOUT THE SITE INFORMATION.

STANDARD REPORT NO. VI
AIR QUALITY DATA REPORT

NEW JERSEY
OXIDES OF NITROGEN
PARTS PER MILLION
1-HOUR DATA

METHOD
00 7

INSTRUMENT
UNKNOWN--NAPCA

LOCATION	SITE NUM	YEAR	NUM OBS	MIN OBS	PERCENTILES 10	30	50	70	90	95	99	MAX OBS	ARITH AVG	GEOMETRIC MEAN	GEOMETRIC STD DEV
EDISON NJ	01	68	3117	0.010	0.010	0.010	0.020	0.030	0.070	0.100	0.170	0.380	0.032	0.023	2.175
		69	4781	0.005	0.017	0.033	0.055	0.091	0.190	0.273	0.480	0.999	0.086	0.055	2.564
		70	742	0.010	0.025	0.035	0.065	0.130	0.260	0.375	0.950	0.999	0.122	0.073	2.619
LINDEN NJ	01	69	5209	0.005	0.023	0.045	0.070	0.113	0.225	0.302	0.590	0.999	0.106	0.071	2.450
		70	1175	0.005	0.020	0.035	0.055	0.095	0.185	0.245	0.465	0.580	0.085	0.057	2.503

CHART 22 OUTFLOW OF AIR QUALITY DATA FROM NADB (REDUCED VALIDATED DATA)

VALID AIR QUALITY DATA GATHERED IN A PARTICULAR STATE WILL BE REDUCED BY SAQIS AND FORWARDED IN SAROAD FORMAT TO APCO FOR ENTERING INTO NADB. EACH QUARTER THIS DATA WILL BE SUMMARIZED AND RETURNED TO THE APPROPRIATE AGENCY OR USER. BECAUSE ANY DATA IN THE NADB IS A MATTER OF PUBLIC RECORD, THE SUMMARY DATA MUST BE CIRCULATED WIDELY. THEREFORE, THE DATA SUMMARY FOR EACH STATE WILL BE MADE AVAILABLE QUARTERLY THROUGH THE COMMERCE CLEARING HOUSE.

OUTFLOW OF AIR QUALITY DATA FROM NADB
(REDUCED VALIDATED DATA)

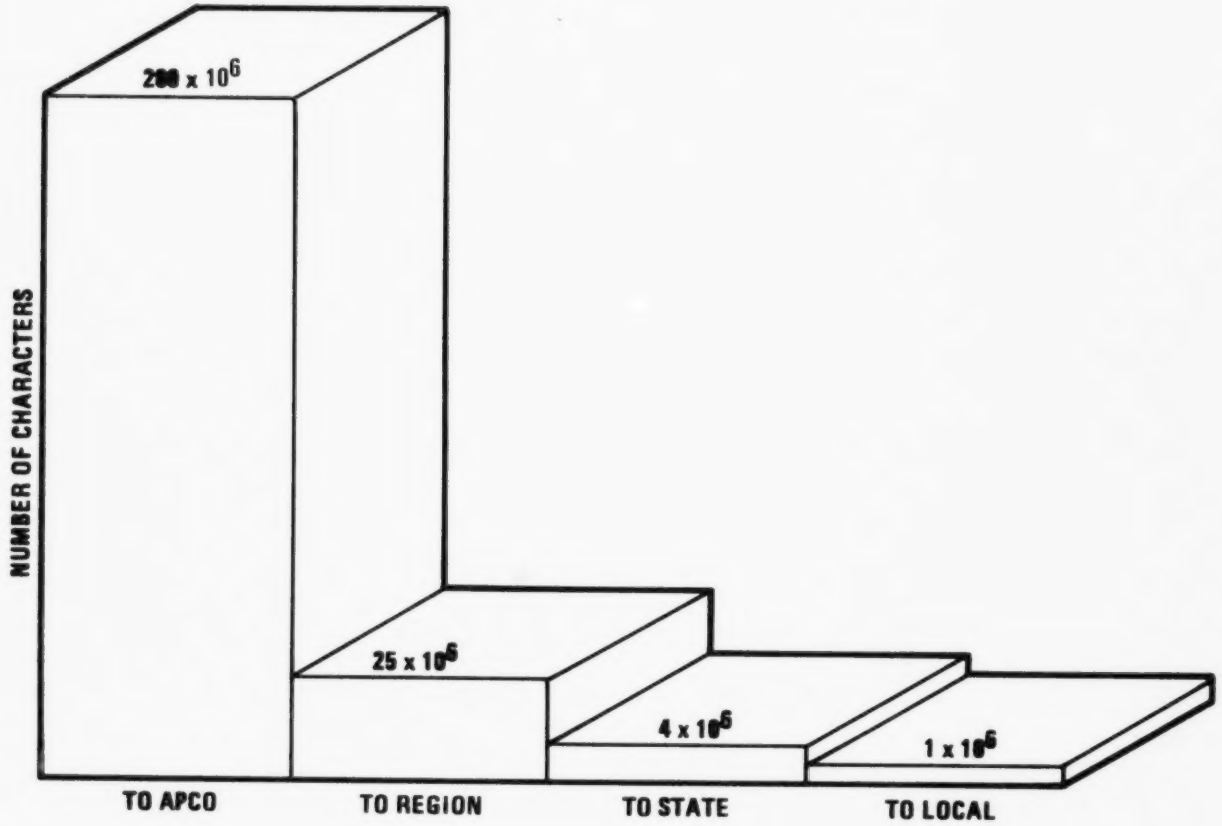

CHART 23

USES BY APCO

APCO WILL USE THE OUTPUT OF THE DATA BANK TO SHOW PROGRESS OF STATES TOWARD MEETING AIR QUALITY STANDARDS, TO ENFORCE SECTION 303 "EMERGENCY POWERS" OF THE CLEAN AIR AMENDMENTS OF 1970, TO SUPPORT CRITERIA DOCUMENT REVISION, TO IDENTIFY AREAS REQUIRING INTENSIFIED SURVEILLANCE AND ABATEMENT EFFORTS, AND TO DEVELOP COMPARABLE, ACCURATE, AND CURRENT AIR QUALITY DATA. IN ADDITION, APCO WILL BE CAPABLE OF RESPONDING TO REQUESTS FROM THE PUBLIC, OTHER GOVERNMENT AGENCIES, AND STATE AGENCIES, AND WILL ALSO BE CAPABLE OF DEVELOPING DATA ACQUISITION GUIDELINES FOR INTERNATIONAL STUDIES.

USES BY APCO

NADIS WILL ENABLE APCO TO:

- SHOW PROGRESS OF STATES TOWARD MEETING AMBIENT AIR QUALITY STANDARDS
- SUPPORT FEDERAL ACTIVITIES DURING EPISODES - FOR SEC. 303 "EMERGENCY POWERS"
- SUPPORT CRITERIA DOCUMENT REVISION
- IDENTIFY AREAS WHICH NEED INTENSIFIED SURVEILLANCE AND/OR ABATEMENT EFFORTS
- RESPOND TO REQUESTS FROM OTHER GOVERNMENT AND STATE AGENCIES
- PUBLISH COMPARABLE, ACCURATE, AND CURRENT AIR QUALITY DATA FOR THE NATION
- DEVELOP DATA ACQUISITION GUIDELINES FOR INTERNATIONAL STUDIES

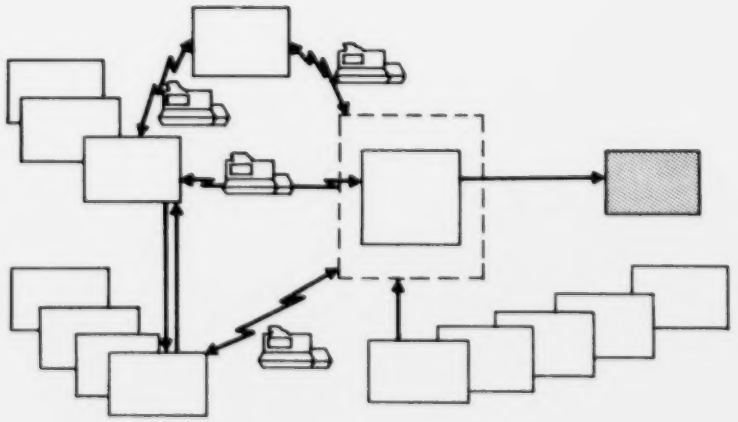

CHART 24

IMPLEMENTATION

THE BULK OF THE EFFORT NEEDED TO IMPLEMENT NADIS WOULD BE REQUIRED DURING FISCAL YEARS 1971, 1972, AND 1973. NADIS WOULD NOT BE FULLY OPERATIONAL UNTIL THE END OF FISCAL YEAR 1976.

IMPLEMENTATION OF TOTAL SERVICE

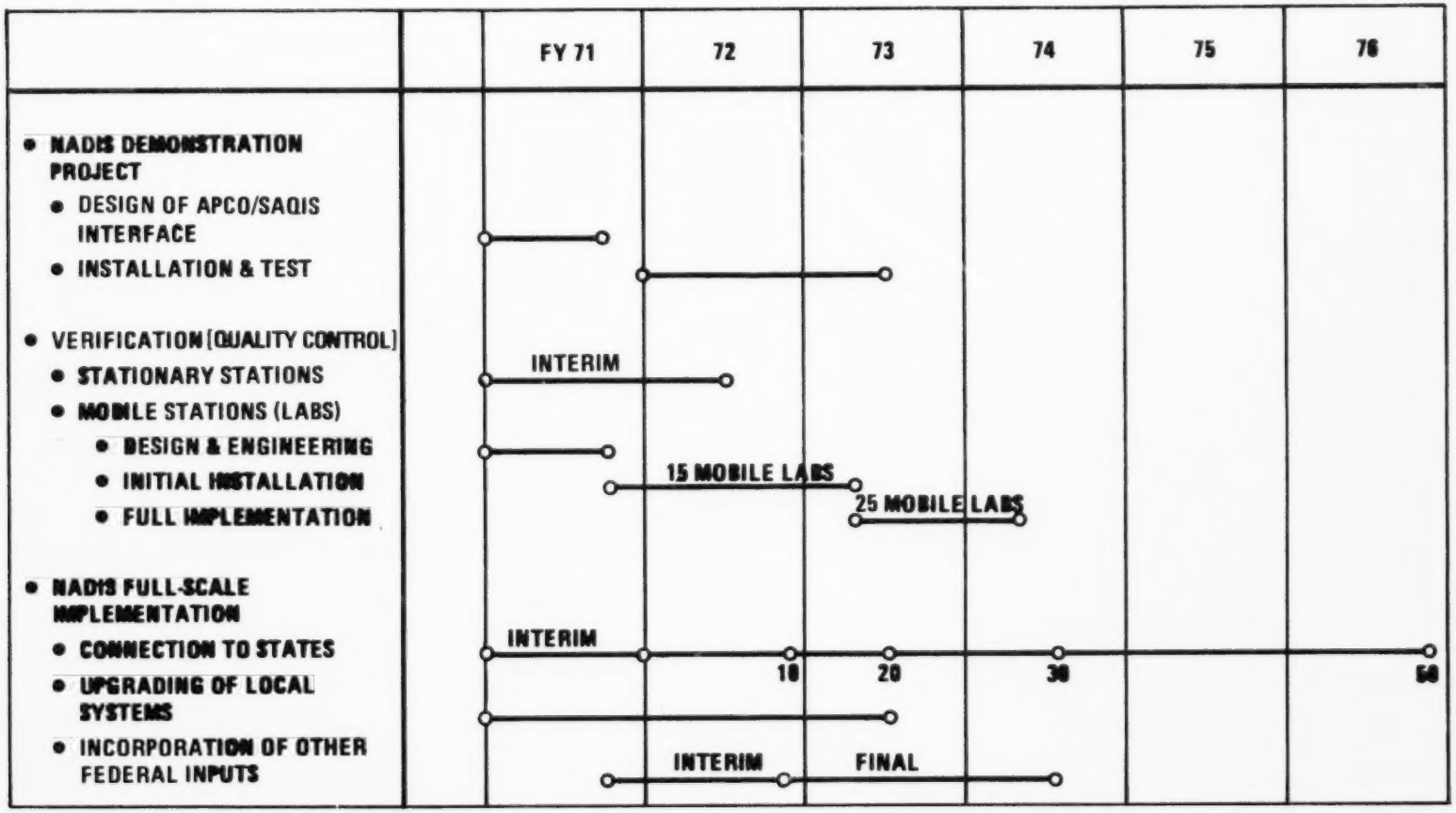

CHART 25

COSTS

THE BREAKDOWN OF THE COSTS CORRESPONDS DIRECTLY TO THE BREAKDOWN OF THE REQUIRED EFFORT. CONNECTING APCO TO THE STATES AND UPGRADING THE PRESENT LOCAL SYSTEMS ARE THE TWO HIGHEST PRICED STEPS OF THE IMPLEMENTATION, BUT IN BOTH CASES THESE COSTS ARE SPREAD OVER SIX FISCAL YEARS.

THE BENEFIT-COST RATIO OF NADIS IS HIGH

COSTS FOR TOTAL SERVICE